A WORLD OF A/V SOLUTIONS

SWITCHERS & MATRICES

CD100 COURT DIRECTOR™
COURTROOM A/V SWITCHING SYSTEM

CD100
COURT DIRECTOR™
COURTROOM A/V SWITCHING SYSTEM

CD110
COURT DIRECTOR™
STATUS DISPLAY
BUTTON
(OPTIONAL)

CD100

OPERATION MANUAL

High Resolution Video Products • A/V System Integration Tools • Interactive Training Systems

Installation and Safety Instructions

For Models without a Power Switch:

The socket outlet shall be installed near the equipment and shall be accessible.

For all Models:

No serviceable parts inside the unit. Refer service to a qualified technician.

For Models with Internal or External Fuses:

For continued protection against fire hazard, replace only with same type and rating of fuse.

Instructions d'installation et de sécurité

Pour les modèles sans interrupteur de courant:

La prise de courant d'alimentation sera installé près de l'équipement et sera accessible.

Pour tout les modèles:

Pas de composants à entretenir à l'intérieur. Confiez toute réparation à un technicien qualifié.

Pour les modèles équipés de fusibles internes ou externes:

Afin d'éviter tout danger d'incendie, ne remplacer qu'avec le même type et la même valeur de fusible.

Installations- und Sicherheitshinweise

Für Geräte ohne Netzschalter:

Die Netzsteckdose soll in der Nähe des Gerätes installiert und frei zugänglich sein.

Für alle Geräte:

Keine Wartung innerhalb des Gerätes notwendig. Reparaturen nur durch einen Fachmann!

Für Geräte mit interner oder externer Sicherung:

Für dauernden Schutz gegen Feuergefahr darf die Sicherung nur gegen eine andere gleichen Typs und gleicher Nennleistung ausgewechselt werden.

Instalacion E Instrucciones de Seguridad

Modelos Sin Interruptor:

La conexión debe ser instalada cerca del equipo y debe ser accesible.

Para Todos Los Modelos:

Dentro de la unidad , no hay partes para reparar. Llame un tecnico calificado.

Modelos con Fusibles Internos o Externos:

Para prevenir un incendio, reemplace solo con el mismo tipo de fusible.

CE COMPLIANCE

All products exported to Europe by Inline, Inc. after January 1, 1997 have been tested and found to comply with EU Council Directive 89/336/EEC. These devices conform to the following standards:

EN50081-1 (1991), EN55022 (1987)
EN50082-1 (1992 and 1994), EN60950-92

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) standards governing this device.

CE

FCC COMPLIANCE

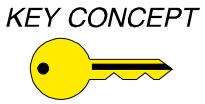
This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

Product Overview

DESCRIPTION

The **CD100** Court Director™ System is a complete A/V switching and distribution solution for courtroom evidence presentation. By combining A/V signal switching, distribution and control into one product, the **CD100** Court Director™ simplifies the design and installation process for system designers and integrators, offering flexible signal routing capabilities and easy operation for a variety of courtroom and audiovisual system applications.

The **CD110** Court Director Status Display lets court officials verify which display devices are active throughout the courtroom. The **CD110** includes a Judge's Video Override button that gives magistrates complete control over video and computer evidence presentation, allowing them to instantly blank all video display devices in the courtroom with the touch of a single button.



*The **CD100** is not a matrix switcher. The Court Director provides three independent video inputs and six independent outputs. Once an input is selected, that signal may be routed to one or more outputs simultaneously.*

PRODUCT FEATURES

- **15-Pin HD VGA Standard Connectors -** The **CD100** connects directly to PC, MAC, SUN and SGI graphics ports and local monitors by using high-resolution coaxial VGA extension / adapter cables.
- **Ultra High-Resolution Amplification -** The **CD100** provides superb performance with analog video signals at any resolution.
- **3-Input Video / Audio Switcher -** The **CD100** Court Director provides multiple inputs and flexible switching capability to accommodate a variety of audio and video applications.
- **Six Buffered Outputs -** The **CD100** is a three-input, six-output distribution amplifier that can simultaneously drive up to six video display devices.
- **Buffered Local Monitor Outputs -** The unique design of the **CD100** provides a buffered local monitor output for both counsels' inputs.
- **Memory -** The **CD100** can recall up to four previously stored settings with the push of a single button or via RS-232 remote control.
- **RS-232 Serial Control Capability -** facilitates complete system integration and effortless control when combined with a third party controller.
- **Video Blank Button -** The **Blank All Displays** Button on the **CD110** allows the judge to suppress the video images on all monitors / display devices throughout the courtroom.
- **Rack Mountable -** The **CD100** can be mounted in a 1U rack space.

Compatibility

The **CD100** Court Director features 15-pin HD female input and output connectors and connects directly to PC, Mac and SGI graphics ports and local monitors that have 15-Pin HD connectors using high-resolution coaxial VGA extension / adapter cables. The unit can also be connected to Mac, SUN, SGI and 4 or 5 BNC workstations using the appropriate input / output adapter cables. All input / output connectors are located on the back of the **CD100**.

INPUT

Featuring three inputs, the **CD100** will accept high-resolution video signals from almost any computer that outputs an analog video signal. The unit will work with signals at virtually any resolution and refresh rate. Compatible computer video signals include VGA, SVGA, XGA, SXGA, UXGA, MAC, SUN, SGI and other high-resolution computers outputting an analog video signal.

Input 3 accepts analog video signals from a third computer, or can accept signals from a DVD player, VCR, or other auxiliary device when used with a video scaler. The INLINE **IN1403** and **IN1404** Video Scalers are recommended for applications requiring superb video scaling for composite video, S-Video, component video and RGB video signals.

The **CD100** provides stereo audio buffering and balancing to support multimedia applications. The 3.5mm audio input jacks (on Inputs 1 and 2) and the dual RCA input connectors (Input 3) accept unbalanced stereo audio from computer sound cards or any device that delivers a stereo line level signal.

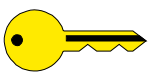
OUTPUT

The **CD100** can drive up to six data display devices simultaneously. The output signal is compatible with high-resolution data grade monitors and data / graphics projectors, making it ideal for use with LCD projectors and other data display devices which require that all VGA sync formats and polarities remain unchanged from the original source signal. The **CD100** provides the amplification necessary to extend data displays 100 feet or greater from the source computer when used with high-resolution coaxial cables.
Note: Maximum drive distance is dependent on both the input signal resolution and the quality of the output cables.

The system provides a buffered local monitor output for Inputs 1 and 2, allowing direct connection of local monitors without the need for additional equipment. All sense pins are passed from each input directly to the corresponding local monitor output.

The audio output provides a balanced or unbalanced signal on a 5-pin captive screw terminal.

KEY CONCEPT



*VGA, MAC, SUN, SGI and other high-resolution workstations operate in several video modes encompassing a wide range of resolutions and scan rates. Many of the video signals from the newest models can run as high as 70 KHz or more, with the newest VGA cards offering an output resolution of 1600 x 1200 (some can even go as high as 1920 x 1080). The data projectors and displays or connected to the **CD100** output must be compatible with the resolution, horizontal scan rate and vertical refresh rate of the computer's video signal. Please check the documentation for both the computer graphics card and the data display devices to ensure compatibility.*

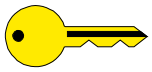
Installation

OVERVIEW

This section offers step-by-step instructions for installing the Court Director System. An Application Diagram is provided on page 6.

Note: Read the instructions carefully before initiating the installation procedure. Before you begin, make sure that there is no power connected to the system, and that all the power buttons are off.

KEY CONCEPT



*The VGA input / output connectors on the rear of the **CD100** are all labeled. It is imperative that all input and output devices be connected appropriately to the correct input and output connectors to ensure proper system operation.*

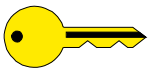
1.) **Place / Install the CD100 Court Director -** at the desired location. Make sure that the unit is seated on a flat surface or is securely installed in a standard 19" equipment rack using the **IN9123B** rack ears (included). The **CD100** is exactly 1U high without the feet. If other equipment will be located in the space directly below the unit, the rubber feet on the bottom of the **CD100** must be removed before mounting it in the equipment rack.

2.) **Place the CD110 Court Director Status Display -** on the judge's bench / desired location. Using an **IN9139 Series** cable (available in lengths from 25' to 75'), connect the Judge Override Input Port on the **CD100** to the RS-232 port on the left side of the **CD110**.

*Note: The **CD110** receives power directly from the **CD100** Court Director via the **IN9139 Series** cable.*

3.) **Situate All Monitors / Display Devices -** throughout the courtroom and connect them to the **CD100** outputs. The Court Director features six 15-pin HD female output connectors, all of which are clearly labeled (witness, gallery, jury, etc.). All display devices *must* be connected accordingly. Unused outputs do not need to be terminated.

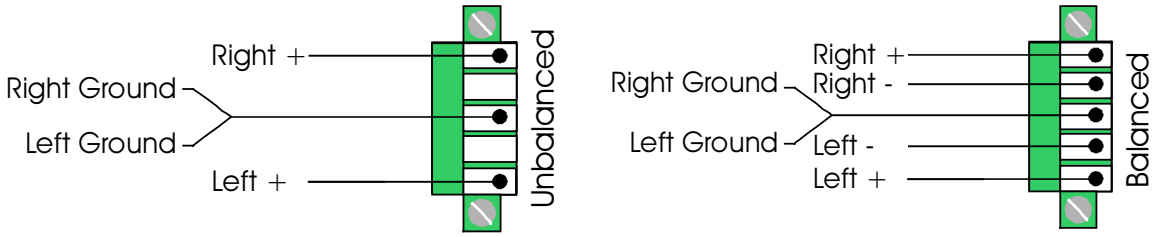
KEY CONCEPT



*Cable selection is critical to overall system performance, especially when dealing with very high scan rates and / or long cable runs. High-resolution VGA extension cables such as the **IN8000 Series** are recommended for all input and output connections.*

4.) **Connect the Audio Output Cables -** to the appropriate pins on the **CD100** 5-pin Phoenix connector. Make sure that the stereo audio output is connected appropriately for a balanced or unbalanced signal as required by the installation (see the diagram below).

Unbalanced Output - connect to the Left, Right and Ground connectors.
Balanced Output - connect to Left +, Left-, Right+, Right- and Ground connectors.



5.) **Connect the Remote Device -** to the RS-232 input (see the Remote Operation Section on page 10 for more information).

6.) **Connect Optional Auxiliary Units -** (**IN1403** Scaler, **IN3808** Switcher, etc.) to the Auxiliary Input (Input 3).

7.) **Connect All Video Sources / Computer Graphics Cards -** to the appropriate **CD100** 15-Pin HD female input ports.

- **PC / MAC / SGI Computers with 15-pin HD Video Ports -** can be connected via **IN8000-1 / IN8200-1 Series** high-resolution coaxial VGA cables.

- **Older Macintosh (15-pin D) / SUN (13W3) / Workstations (4 or 5 BNC) -** can be connected using the appropriate input / output cables listed in the chart on the following page.

An unused input does not need to be terminated.

8.) **Connect the Computer Sound Card Output -** (if applicable) to the 3.5mm female stereo audio input connector using an **IN8200-1 Series** cable [15-pin HD with 3.5mm (M-M) mini DIN], or an **IN9106** audio patch cable (3.5mm stereo mini male to 3.5mm stereo mini male). For computers with RCA connectors, use the **IN9107** audio adapter cable [(1) 3.5mm stereo mini male to (2) RCA male].

9.) **Connect the Local Computer Monitor(s) -** (if present) to the local monitor output port(s) on the back of the **CIA100**. Monitors with 15-pin VGA connectors will attach directly to the interface. For other types of monitors, refer to the table on the next page.

10.) **Apply A/C Power -** to the **CD100** using the **IN9230** IEC power cable (included).

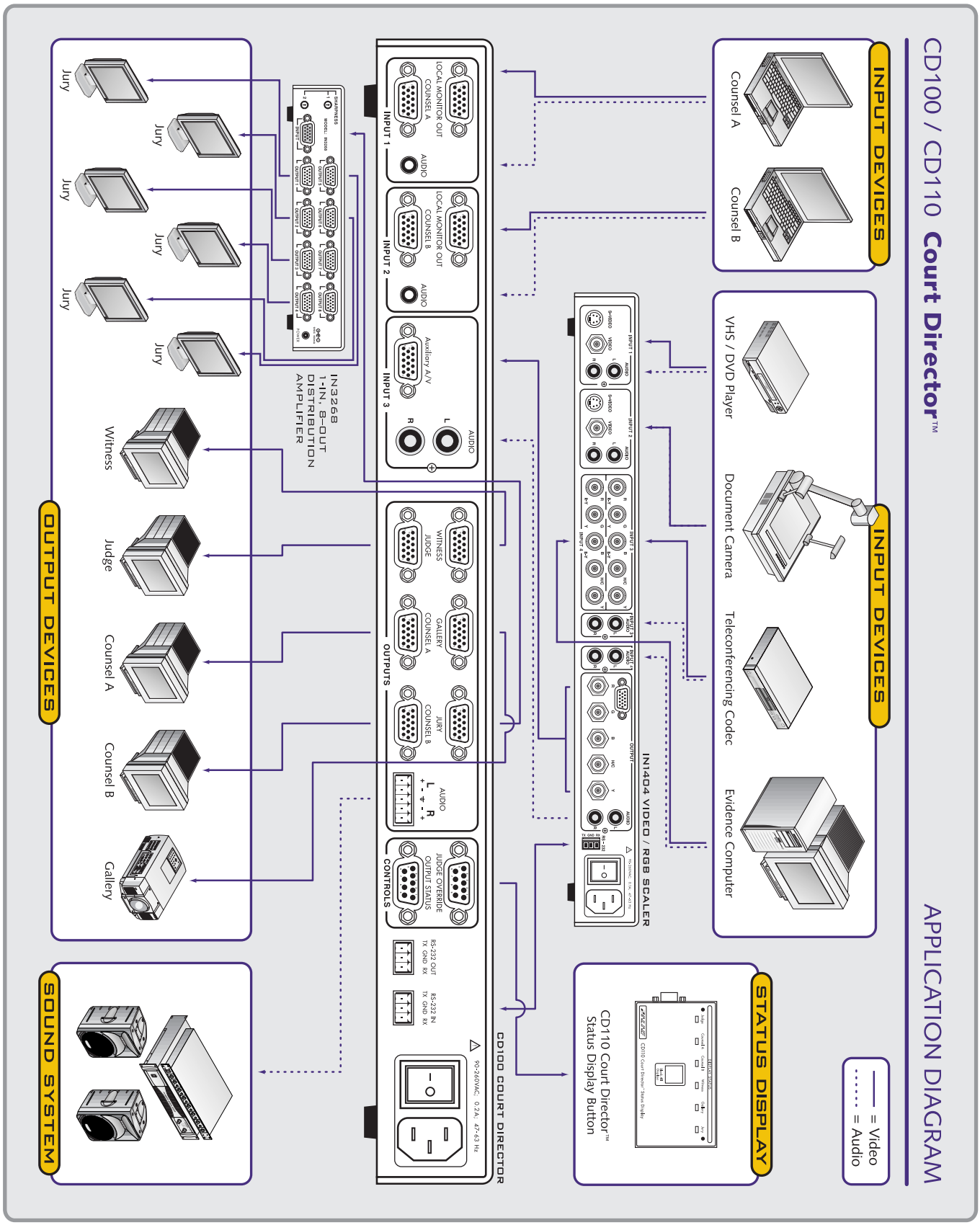
11.) Turn on the **CD100**, the VGA source(s), the output device(s), the local monitor(s), and any auxiliary devices.

ADAPTER / EXTENSION CABLES FOR INPUT AND LOCAL MONITOR OUTPUT

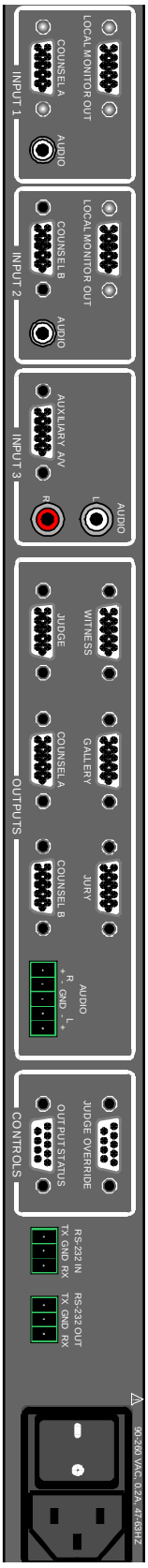
The **CD100** has 15-pin HD VGA-type input and local monitor output connector ports. The following cables / adapters are available:

Computer	3’	6’	12’	25’	35’ +
VGA: 15-Pin HD					
Input Cable (M-M)	**IN8003M-1**	**IN8006M-1**	**IN8012M-1**	**IN8025M-1**	**IN80xxM-1**
Output Cable (M-F)		**IN8006-1**	**IN8012-1**	**IN8025-1**	**IN80xx-1**
VGA with Stereo Audio: 15-Pin HD with 3.5mm (M-M) mini DIN					
Input Cable (M-M)	**IN8203M-1**	**IN8206M-1**	**IN8212M-1**	**IN8225M-1**	**IN82xxM-1**
Output Cable (M-F)	**IN8203-1**	**IN8206-1**	**IN8212-1**	**IN8225-1**	**IN82xx-1**
MAC with 15-Pin D:					
Input Cable (M-M)		**IN9140M**		**IN9144M**	
Output Cable (M-F)	**IN9141**			**IN9145**	
MAC G3, G4 and PowerBook with 15-Pin HD*:					
Input Cable (M-M)		**IN8006M-1**	**IN8012M-1**	**IN8025M-1**	**IN80xxM-1**
Output Cable (M-F)		**IN8006-1**	**IN8012-1**	**IN8025-1**	**IN80xx-1**
SUN: 13W3 (may also be used with SGI with RGsB output)					
Input Cable (M-M)		**IN9142M**		**IN9146M**	
Output Cable (M-F)	**IN9143**			**IN9147**	
Workstation: 5 BNC / RGBHV					
Input Cable (M-M)		**IN9045-L6**	**IN9045-L12**	**IN9045-L25**	**IN9045-Lxx**
Output Cable (M-M)		**IN9045-L6**	**IN9045-L12**	**IN9045-L25**	**IN9045-Lxx**
Workstation: 4 BNC / RGBS					
Input Cable (M-F)		**IN9100**			

*Newer Mac G3 models (with translucent cases) have 15-Pin HD connectors (pins arranged in 3 rows). Older G3 models (with solid white enclosures) incorporate 15-Pin D connectors (pins arranged in 2 rows).



CD100 REAR PANEL CONNECTORS



INPUT 1:

COUNSEL A	-	15-pin HD female video input
LOCAL MONITOR	-	15-pin HD female video output
AUDIO IN	-	3.5mm stereo mini female

INPUT 2:

COUNSEL B	-	15-pin HD female video input
LOCAL MONITOR	-	15-pin HD female video output
AUDIO IN	-	3.5mm stereo mini female

INPUT 3:

AUXILUARY A/V	-	15-pin HD female video input
AUDIO IN	-	Left and Right RCA connectors

OUTPUT:

WITNESS, GALLERY, JURY, JUDGE,

COUNSELS A & B	-	15-pin HD female video output
AUDIO	-	5-pin captive screw terminal output:

Balanced:	Unbalanced:
Pin 1: Right +	Pin 1: Right +
Pin 2: Right –	Pin 3: Ground
Pin 3: Ground	Pin 5: Left +
Pin 4: Left –	
Pin 5: Left +	

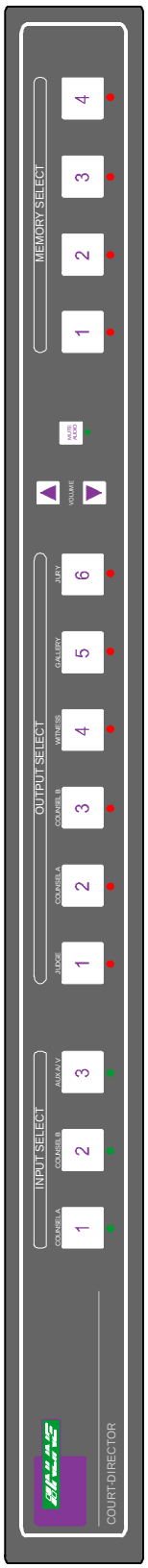
CONTROLS:

JUDGE OVER-RIDE BUTTON	-	9-pin D male input
OUTPUT STATUS DISPLAY	-	9-pin D male output

EXPANSION PORTS:

RS-232 IN	-	Phoenix connector: Pin 1: Transmit Pin 2: Ground Pin 3: Receive
RS-232 OUT	-	Phoenix connector: Pin 1: Transmit Pin 2: Ground Pin 3: Receive
POWER	-	Universal Power: 90 - 260 VAC, 47 - 63 Hz

Operation



This section focuses on operating the **CD100** / **CD110** using the front panel controls and commands. All switching operations, audio adjustments and memory selections can be performed through the **CD100** front panel or via RS-232 serial controls. Serial control information is provided on page 10.

CD100 FRONT PANEL CONTROLS

INPUT SELECT - Selects the audio and video source. The large buttons labeled **Input 1** (Counsel A), **Input 2** (Counsel B), and **Input 3** (Aux. A/V) are used to select the desired input. After turning on the **CD100** (power switch is located on the back of the unit), press and release the desired **Input Select** Button. A green LED will light underneath the button to indicate the selected input. The stereo audio signal associated with the input will automatically be selected at the same time. To switch to another input, simply press and release another numbered **Input Select** Button.

*Note: When powered up, the **CD100** automatically returns to the last configuration, including the last input selected.*

OUTPUT SELECT - The six **Output Select** Buttons allow the operator to route the signals to designated display devices throughout the courtroom. The output destinations are as follows:

Output 1: Judge	Output 2: Counsel A	Output 3: Counsel B
Output 4: Witness	Output 5: Gallery	Output 6: Jury

Pressing an **Output Select** Button once will route the signal to the display device and the LED on the faceplate will illuminate. Pressing it a second time will discontinue the signal and extinguish the LED.

VOLUME - The **Volume** Buttons are used to regulate the level of the audio signals routed through the **CD100**. Use the ⮝ / ⮟ **Volume** Buttons to increase / decrease the audio level for the current input. Press and release a button to raise / lower the volume level (by increments / decrements of 1 db), or press and hold a button to change the level continuously.

*Note: The **CD100** volume level adjustments are global.*

MUTE - Mutes the audio for the selected input. Press the button to engage (the green LED below the button will illuminate), and press again to disengage.

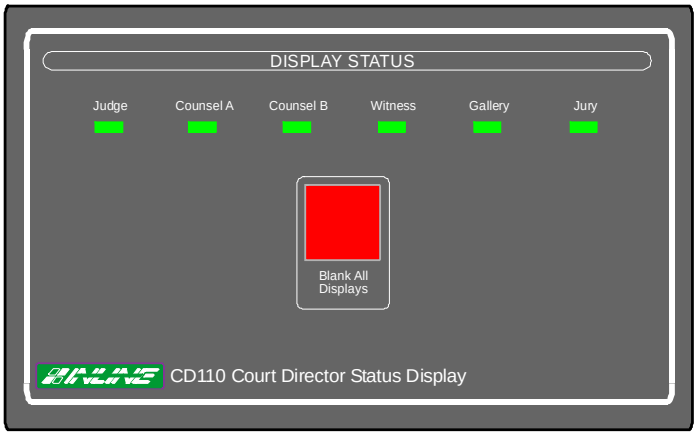
*Note: The **CD100** saves the mute command for each input automatically.*

MEMORY SELECT - The **CD100** features four **Memory Select** Buttons that allow the operator to store custom system configurations. All input, output and audio settings can be stored internally (in memory) so that the adjustment(s) will not have to be repeated once they have been optimized.

To save a configuration, simply press the desired **Memory Select** Button and hold for five seconds. The LED below the button will illuminate. Pressing and releasing the button will recall the configuration. A memory setting can be deleted by either pressing and holding the button for five seconds, or replacing it with a new configuration by repeating the save process.

PROJECTOR PORT CONTROL -The **Memory Select** Buttons can also be used to store and transmit serial ASCII or hex projector control strings to projectors, INLINE products (such as the **IN1400 Series** Scalers) or other serial controlled AV equipment in RS-232 modes. Projector Port Controls are activated (during power up) through either the front panel controls or via RS-232 remotes (see the Power Up Settings Section on the following page).

CD110 STATUS DISPLAY CONTROLS



OUTPUT STATUS DISPLAY - The six LEDs on the upper half of the **CD110** indicate which output devices are displaying a video image: Judge, Counsel A, Counsel B, Witness, Gallery and / or Jury.

BLANK ALL DISPLAYS BUTTON - The **Blank All Displays** Button allows the magistrate to control which display devices are active throughout the courtroom. When the button is pressed, all output displays are blanked, the front control panel on the **CD100** is disabled, the audio is muted, and the LEDs (above the **Blank** Button**)** will begin flashing. Pressing it a second time will re-enable the audio, return control to the front panel, and automatically re-enable the last input, but the operator must reselect the output(s). The LED will discontinue flashing.

*Note: The blanking process can be performed through the front panel of the **CD110** or via RS-232 serial controls.*

Factory Default Reset

The **CD100** allows users to reset all settings to factory default status. Factory default settings can be restored using the following procure: Press and hold the **VOLUME DOWN** Button while turning the unit's power switch to ON. If power is already on, press and hold the **VOLUME DOWN** button and switch the power off, and then back on.

The factory default values are:

Input 1 is selected
No outputs are selected
Mute is **disabled** (for all channels)
Volume for all channels is set to **43**
All configuration memories are initialized with **factory default values**
Judge override condition is **cleared**
Baud rate for projector port is set for **9600**
Projector port is **disabled**
Baud rate for communication port is set to **9600**
Command code delimiters are set to **[ ]**
Front panel is **enabled**

Remote Operation

RS-232 CONTROL

Input selections, output settings, volume and override functions can be controlled via RS-232 commands. The **CD100** RS-232 serial control port accepts serial commands from a control system, computer serial port, or any other device capable of sending out serial ASCII commands at compatible baud rates. A complete listing of RS-232 codes is included on the following pages.

COMMUNICATION PROTOCOL

8 data bits
1 stop bit
No parity check
9600 baud (factory default setting)

BAUD RATE SELECTION

The **CD100** has a factory default baud rate of 9600 bps and can communicate at baud rates from 1200 up to 38,400.
*Note: The baud rate transmitted must match the baud rate selected on the **CD100**.*

COMMAND CODE STRUCTURE AND DELIMITERS

All commands sent to the **CD100** must contain a leading code, the command code, and an ending code. Each command must be completely executed before the unit will accept a new command. The unit can be set to recognize six sets of leading and end codes (delimiters) when using an RS-232 remote: parentheses ( ), brackets [ ], braces{ }, slashes \ /, less and greater than < >, and signs !#. The factory default serial delimiters are [ ].
*Note: The **CD100** will ignore commands with no delimiters or the wrong delimiters.*

A complete command consists of:

[	The leading code
CH3	The command code.
]	The ending code

Example: [CH3] directs the **CD100** to select channel 3.

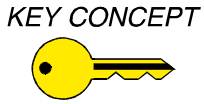
SERIAL CONTROL CABLE WIRING

When controlling only one Court Director System, connect the RS-232 cable as follows:

Controller Transmit	to	**CD100** Receive
Controller Ground	to	**CD100** Ground
Controller Receive	to	**CD100** Transmit

When controlling multiple Court Director Systems, connect the RS-232 cable as follows:

Controller Transmit	to	Each **CD100** Receive
Controller Ground	to	Each **CD100** Ground
Controller Receive	to	Only one **CD100** Transmit



*When controlling multiple units, the Controller Receiver Terminal and each **CD100** Transmit Terminal is left unconnected. The **CD100** Transit Lines may not be connected together, otherwise signal contention from multiple units will result. Therefore, "receive" information is not avail-able to the controller in this configuration. Each unit must be set to different delimiters.*

Court Director™ System Serial Commands*

Note: If the judge override function is active, the only serial commands that may be executed are: ACIx, CMDCDx, OVERx and RESx. The INVALID MODE response will be given to other commands.

Command	Description
AC13	set communications port baud rate to 1200
AC14	set communications port baud rate to 2400
AC15	set communications port baud rate to 4800
AC16	set communications port baud baud rate to 9600**
AC17	set communications port baud baud rate to 19,200
AC18	set communications port baud baud rate to 38,400
ACIA3	set projector port baud rate to 1200
ACIA4	set projector port baud rate to 2400
ACIA5	set projector port baud rate to 4800
ACIA6	set projector port baud baud rate to 9600**

Command	Description
ACIA7	set projector port baud baud rate to 19,200
ACIA8	set projector port baud baud rate to 38,400
BALR	increment balance of currently selected input channel
BALL	decrement balance of currently selected input channel
BAL@	set audio balance of currently selected channel to center (016)**
BAL?	request balance setting of currently selected input channel
BALxxx	set balance of currently selected input channel to absolute value (004<= xxx<=031)
BAS+	increase bass of currently selected input channel
BAS-	decrease bass of currently selected input channel
BAS@	set bass of currently selected input channel to normal (016)**
BASxxx	set bass of currently selected input channel to absolute value (006<=xxx<=027)
BAS?	request bass setting of currently selected input channel
CALLx	recall current settings from configuration memory (1<=x<=4) *Settings include:* *Input channel* *Output channel* *Volume, mute, treble, bass and balance for all 3 input channels*
CH1	select input channel 1
CH2	select input channel 2
CH3	select input channel 3
CH@	select input channel 1**
CH?	request current input channel
CDMCD0	set command code [ ]**
CDMCD1	set command code { }
CDMCD2	set command code ( )
CDMCD3	set command code < >
CDMCD4	set command code \ /
CDMCD5	set command code !?
DISPLY0x	disable output (0<=x=6, 0 = global)
DISPLY1x	enable output (0<=x=6, 0 = global)
FP0	disable front panel operation
FP1	enable front panel operation (enable at every power up)
FP	toggle front panel enable
FP?	request front panel enable status
INFO	send unit version
MUTE0	disable mute of currently selected input channel**
MUTE1	mute currently selected input channel
MUTE?	request mute status of currently selected input channel
OVER0	disable judge override**
OVER1	enable judge override
OVER?	request judge override status
PCCx	send out projector code for projector memory x (1<=x<=4)

Command	Description
PCLxyyy	load ascii projector code for projector memory x (1<=x<=4) (code yyy consists of 0 to 8 ascii characters) *To allow inclusion of the current command code characters in the PCL ASCII string, the Data Link Escape character of '\' may be used. If the character is supposed to be interpreted literally instead of by its command code definition, it is preceded by a '\'.* ***Example:** To load the ASCII String* '[CH1]' *into memory 1 while the current command code characters are* '['and']', *the following command will be issued:* '[PCL1\[CHI\]]' *An alternative way to achieve this without the Data Link Escape character would be to change the command code to* '('and')', *issue the PCL command literally, and change the command code back to* '['and']'. *The three command sequence should be:* '[CMDCD2]' '(PCL1[CH1])' '[CMDCD0]'
PCE0	disable projector port (includes manual and serial activation)
PCE1	enable projector port
PCE2	set projector port to test mode (projector codes are sent through the communications port)
PCE?	request projector port status
RES0	reset (power on) *The input, output, volume, mute, projector port enable, baud rates and command codes are reset to their **most recent values**. Judge override condition is **cleared**.*
RES1	reset**
SAVEx	save current settings to configuration memory (1<=x<=4) *Settings include:* *Input channel* *Output channel* *Volume, mute, treble, bass and balance for all 3 input channels*
TRE+	increase treble of currently selected input channel
TRE-	decrease treble of currently selected input channel
TRE@	set treble of currently selected input channel to normal (016)**
TRE?	request treble setting of currently selected input channel
TRExxx	set treble of currently selected input channel to absolute (008<=xxx<=025)
VOL+	increase volume of currently selected input channel
VOL-	decrease volume of currently selected input channel
VOL@	set volume of currently selected input channel to normal (043)**
VOL?	request volume setting of currently selected input channel
VOLxxx	set volume of currently selected input channel to absolute (012<=xxx<=063)

* This Command List is preliminary. All commands listed in this manual are functional, however, INLINE reserves the right to modify, remove and / or add commands on future product revisions. The commands are *not* case sensitive.

** Factory default

Specifications

CD100 Court Director™	
Input	
Video Connector Type	(3) 15-pin HD female
RGB Video Signal	Analog, 1.5 Vp-p max.
Input Impedance	75 ohms
Sync Signals	TTL compatible
Compatible Formats	RGBHV / RGBS / RGsB
Control Connector	DB-9 female
Stereo Audio Input	3.5mm Stereo Mini female on Inputs 1 and 2 Dual RCA female on Input 3
Output	
Buffered Local Monitor	15-pin HD female on Inputs 1 and 2
Main Output	(6) 15-pin HD female
Output Format	Same as Input - RGBHV / RGBS / RGsB
Control Connector	DB-9 female
Main Audio Output	5-Pin Captive Screw Terminal (balanced or unbalanced)
General	
RS-232 Control	(2) 1200 to 57,600 baud, N, 8, 1; 3-pin Phoenix
Power Supply	Internal: 90-260 VAC. 0.4A, 47-63HZ
Dimensions	1.75” x 17’ x 12.2” / 4.4 cm x 43.2 cm x 31.0 cm
Shipping Weight	7 lbs. / 3.5 kg
Product Weight	3.5 lbs. / 1.6 kg.
Regulatory Approvals	UL 1950, CAN/CSA-22.2 No. 950, Third Edition FCC class A; CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN60950-92

CD110 Status Display	
Input / Output	
Control Connector	DB-9 female
General	
Dimensions	2.75”(at highest point) x 9’ x 6.85” / 7 cm x 17.4 cm x 22.9 cm
Shipping Weight	5 lbs. / 2.5 kg.
Product Weight	2 lbs. / 1 kg.
Regulatory Approvals	Same as above

Parts Included
(1) CD100: Court Director **(1) CD110:** Status Display **(1) IN9230:** IEC Power Cable, 6’ long (USA only) **(1) IN9123B:** Rack Ears - For installing the **CD100** in a standard 19” equipment rack Operation Manual

Optional Accessories
VGA Monitor Adapter and Extension Cables
IN8000 Series: 15-pin HD male to 15-pin HD female, lengths from 3' to 250' **IN8000M Series:** 15-pin HD male to 15-pin HD male, lengths from 3' to 250' **For Other Computers:** Refer to the Adapter / Extension Cables Chart on page 5
Connector Cables
IN9139 Series: Status Display Link Cable - Connects **CD100** to **CD110**, 9-pin D Male to 9-pin D male (available in a variety of lengths)
Audio Cables
IN9106: 3.5mm stereo mini to 3.5mm stereo mini (M-M), 6' long **IN9107:** (1) 3.5mm stereo mini male to (2) RCA male, 6' long **IN8700 Series**: Stereo audio cable (2) RCA (M-M), lengths from 6' to 25'
Powered Accessories
IN1100 / IN1110: Twisted Pair Video Transmission System **IN1403 / IN1404:** Video Scalers

Troubleshooting

Problem: One of the display devices has no image.

- **Solution 1:** Verify that the device's power switch is turned on and that the power cable is securely plugged into the A/C source.
- **Solution 2:** Verify the connection to the display device.
- **Solution 3:** Verify that the output device is compatible with the horizontal scan rate output by the computer video card.

Problem: There is no image on any of the display devices.

- **Solution 1:** Make sure that the **IN9230** IEC power cable is securely plugged into the **CD100** and the A/C source.
- **Solution 2:** Make sure the A/C source is live.
- **Solution 3:** Verify that the power switch is turned on for the video source, the **CD100** and all display devices.
- **Solution 4:** Verify the connections to all the output display devices.
- **Solution 5:** Verify that the data projector, monitor or other output device is compatible with the horizontal scan rate output by the computer video card.

Problem: There is no audio output.

- **Solution 1:** Verify that power is present and that the power switch is turned on for the audio source, the **CD100** and the mixer / amplifier.
- **Solution 2:** The audio output of the **CD100** is line level audio *only*. It should be connected to a mixer / amplifier or other audio unit that accepts a line level input.
- **Solution 3:** Increase the volume using the volume UP button.
- **Solution 4:** The mute may be activated. Press the **Mute** Button to deactivate the function.

Problem: The LED's on the CD110 do not illuminate and the Override Button is not responding.

- **Solution:** Verify that the DB-9 cable is connected properly.

If problems persist, call INLINE Technical Services at (714) 921-4100 for further assistance.

Warranty

- INLINE warrants the equipment it manufactures to be free from defects in materials and workmanship.

- If equipment fails because of such defects and INLINE is notified within two (2) years from the date of shipment, INLINE will, at its option, repair or replace the equipment at its plant, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications.

- Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of re-shipment to the Buyer.

- **This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.**

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